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EXAMINER	
NGUYEN, TAN D	
ART UNIT	PAPER NUMBER
3689	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/058,830	COHEN ET AL.	
	Examiner	Art Unit	
	Tan Dean D. Nguyen	3689	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-7 and 9-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-7 and 9-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 10/23/2009 has been entered.

Claim Status

2. Claims 1-3, 5-7 and 9-11 are pending. Claims 4, 8 and 12-14 have been canceled. They comprise of 3 independent groups of claims:

1) method[1]: 1-3,

2) system[1]: 5-7, and

3) method[2]: 9-11.

System claim 5-7 are broad and will be examined first.

As of 10/23/09, independent system claim 5 is as followed:

5. (Currently amended) Computer ~~implemented~~ system for allocating to at least two computer servers a demand forecast application, the demand forecast application represented by a demand forecast tree having a single top level node with a plurality of branches directly emanating therefrom, the system comprising:

(1) at least two computer servers, and

(2) a computer manager executing instructions in a computer program, the computer program instructions comprising program code that:

a) determines an expected computing time for each branch of the plurality of branches of the demand forecast tree;

b) allocates each branch of the plurality of branches to a task of a plurality of tasks based on the expected computing time for the branch, such that a total expected

computing time for each task is substantially equal, wherein the total expected computing time for a task of the plurality of tasks is determined by adding the expected computing time for each branch that is allocated to the task; and

c) for each task, distributes the task to a computer server of the at least two computer servers and executing the task on the computer server.

Note: for convenience, letters (a)-(c) are added to the beginning of each step.

Findings of Facts

3. ***Server***: "2. On the Internet or other network, a computer or program that responds to commands from a client." Computer Dictionary, 3rd Edition, Microsoft Press, Redmond, WA, 1997.

Principles of Laws / Interpretations

4. The preamble is normally considered "being optional" and does not have much patentable weight since many times it is merely statements of purpose or intended use. See MPEP 2111.02 It's the body of the claim that matters and the current body of the claims have no tie to any particular machine. *Corning Glass Works*, 868 F.2d at 1257, 9 USPQ2d at 1966. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See also *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) ("where a patentee defines a

structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation"); *Kropa v. Robie*, 187 F.2d at 152, 88 USPQ2d at 480-81 (preamble is not a limitation where claim is directed to a product and the preamble merely recites a property inherent in an old product defined by the remainder of the claim); *STX LLC. v. Brine*, 211 F.3d 588, 591, 54 USPQ2d 1347, 1350 (Fed. Cir. 2000) (holding that the preamble phrase "which provides improved playing and handling characteristics" in a claim drawn to a head for a lacrosse stick was not a claim limitation).

5. Note: independent claim 5 is an apparatus claim. In examination of the apparatus claim, the claims must be structurally distinguishable from the prior art. While features of an apparatus claim may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See (1) MPEP 2114. (2) *In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)*. Apparatus claims cover what a device is, not what a device does, i.e. "device which acts or performs ...". (3) *Hewlett-Packard Co. vs. Bausch & Lomb Inc. (Fed. Circ. 1990)*. Manner of operating the device or elements of the device, i.e. recitation with respect to the manner in which a claimed apparatus is intended to be employed/used, does not differentiate apparatus from the prior art apparatus. (4) *Ex parte Masham*, 2 USPQ2d 1647 (BPAI, 1987).

Note that in apparatus claim, descriptions to positive claim language, such as produced when one uses the term "configured to" or, even more positively, 35 U.S.C. 112, sixth paragraph language, "means for". Using any other claim format such as

using method steps, are/may not be proper and should not be given the same interpretation of the machine claim or since to do so would be to dilute the provisions of the statute of an apparatus claim.

Also, this is an apparatus claim and intended use limitation for the system/device or apparatus, i.e. "**for allocating to** ... " carries no patentable weight.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. **Claims 1-3 (method)** are rejected under 35 U.S.C. 101. Based on Supreme Court precedent and recent Federal Circuit decisions, the Office's guidance to an examiner is that a § 101 process must:

(1) be tied to a particular machine or apparatus or

(2) transform underlying subject matter (such as an article or materials) to a different state or thing. See Diamond v. Diehr, 450 U.S. 175, 184 (1981); Parker v. Flook, 437 U.S. 584, 588 n.9 (1978); Gottschalk v. Benson, 409 U.S. 63, 70 (1972); Cochrane v. Deener, 94 U.S. 780, 787-88 (1876).

(a) To qualify as a § 101 statutory process, the claim should recite the particular machine or apparatus to which it is tied, for example by identifying the machine or apparatus that accomplishes the method steps, or positively reciting the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

(b) There are two corollaries to the machine-or-transformation test. First, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent-eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. Second, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific machine or a particular transformation of a specific article in an insignificant step, such as data gathering or outputting, is not sufficient to pass the test.

(c) Here, applicant's method steps fail the first prong of the new test because the there is a tie to a processor on the 2nd step, however, this is insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. The 3rd step of "allocating each branch" and 4th step of "distributing the task..." appear to be critical steps and these steps should also be tied to the processor.

(d) Further, applicant's method steps fail the second prong of the test because the claimed steps do not result in an article being transformed from one state to another. There is no transformation occurring in the claims for a physical object or substance or data that represents physical objects or substances.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. **Claims 5-7 (system) are rejected** under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Current claims 5-7 comprise (1) at least two computer servers, and (2) a computer manager (module), which could read over software components as indicated above. There are no citations of an apparatus or structural elements or devices such as processor or computer. Also, as indicated below, a server can be considered as software component.

Server: "2. On the Internet or other network, a computer or program that responds to commands from a client." Computer Dictionary, 3rd Edition, Microsoft Press, Redmond, WA, 1997.

10. Claims 5-7 (system) are rejected under 35 U.S.C. 101 because the claimed invention is directed to more than one class of statutory subject matter.

The independent claim 5 begin by discussing "a computer system" comprising at least two computer servers, but the body of the claim include method steps, such as "executing instructions", "determines", "allocates", "is determined", "distributes", and "executing", etc., respectively use language that is used in the claims of a method. "A claim of this type is precluded by the express language of 35 USC 101 which is drafted so as to set forth the statutory classes of invention in the alternative only". See Ex parte Lyell (17 USPQ2d 1548).

Similarly dependent claims 6-7 comprise method steps, such as "for execution", "computes", "determines", "entered", and "will process", etc, or respectively use

language that is used in the claims of a method. "A claim of this type is precluded by the express language of 35 USC 101 which is drafted so as to set forth the statutory classes of invention in the alternative only". See Ex parte Lyell (17 USPQ2d 1548).

11. Note that in apparatus claim, descriptions to positive claim language, such as produced when one uses the term "configured to" or, even more positively, 35 U.S.C. 112, sixth paragraph language, "means for". Using any other claim format such as using method steps, are/may not be proper and should not be given the same interpretation of the machine claim or since to do so would be to dilute the provisions of the statute of an apparatus claim.

Claim Rejections - 35 USC § 112

12. **Claims 5-7 (system[1]) are** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. ***Claims 5-7 (system[1])*** are vague and indefinite since the claims uses "method steps" such as such as "executing instructions", "determines", "allocates", "is determined", "distributes", and "executing", for execution", "computes", "determines", "entered", and "will process", etc, in an apparatus claims. See IPXL Holdings. Va. Amazon.com (Fed. Circuit 2005). System claim that includes a method step is invalid as indefinite since it's not clear what is the scope of the apparatus claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. **Claims 5-7 (system) are rejected under 35 U.S.C. 102(a) as being anticipated by WOLF ET AL (US 6,374,297).**

As for independent system claim 5, WOLF ET AL discloses a computer system for allocating to at least two computer servers a demand forecast application, the demand forecast application represented by a demand forecast tree having a single top level node with a plurality of branches directly emanating therefrom, the system comprising:

(1) at least two computer servers, and

{see Figs. 4, cols. 1 and 9 "*...from server 1 to servers 2 and 3...*"}

(2) a computer manager [executing instructions in a computer program, the computer program instructions comprising program code that:

a) determines an expected computing time for each branch of the plurality of branches of the demand forecast tree;

b) allocates each branch of the plurality of branches to a task of a plurality of tasks based on the expected computing time for the branch, such that a total expected computing time for each task is substantially equal, wherein the total expected

computing time for a task of the plurality of tasks is determined by adding the expected computing time for each branch that is allocated to the task; and

c) for each task, distributes the task to a computer server of the at least two computer servers and executing the task on the computer server].

{see Fig. 2, 4, col. 1 and cols. 8-9 "*a MASTER routine*...}

Note the brackets are used to indicate "method steps" and these limitations have no patentable weight in a system claim as indicated above.

As for dep. claims 6-7 (part of 5 above), which basically contain method steps and therefore are rejected for the same reasons set forth above. Furthermore, the limitations are also taught on cols. 8-9 and Figs. 4-6.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 5-7 (system[1]), 1-3 (method1), and 9-11 (method[2]) are rejected under 35 U.S.C. 103(a) as being unpatentable over (1) FONG et al in view of (2) BEHNENS ET AL and (3) PRASANNA.

As for independent system claim 5, in a similar computer-implemented method for load (computing) sharing controller for optimizing resource utilization cost, **FONG et al** fairly teaches the concepts of analyzing a computation demand for each branch of the plurality of branches by determining a number of bottom level nodes comprising each branch {see Fig. 4, elements 44, 45 and 46 each with 2 bottom level nodes) and allocating the nodes among different parallel jobs/processing systems in order to perform efficient scheduling of the resources (computing processors or servers) {see col. 1, lines 14-67 "...*parallel computers*...", col. 2, lines 1-67}. Note on lines 45-51, FONG et al also teaches "load sharing" scheduling methodology to balance the load among the nodes and thereby reducing mean response time. Note also, on lines 55-63, FONG et al discloses the partition of the available resources across the different

scheduling schemes in a way that meet objectives, maximizing all resource utilization, providing the best overall mean response time, and the optimal system throughput. FONG et al disclose a system to carry out the scope above with:

(a) at least two computer servers,

{see col. 1, lines 15-67 ".. . *In a massively parallel processing system, as well as in a network of* ***computers****, ...", "...****parallel computers****, ..."*

(b) a computer manager that determines a computation demand for each branch of the plurality of branches by determining a number of bottom level nodes comprising each branch {see Fig. 4, elements 44, 45 and 46 each with 2 bottom level nodes) and allocating the nodes among different parallel jobs/processing systems in order to perform efficient scheduling of the resources (computing processors or servers) {see col. 1, lines 14-67 "...*parallel computers*...", col. 2, lines 1-67}. Note on lines 45-51, FONG et al also teaches "load sharing" scheduling methodology to balance the load among the nodes and thereby reducing mean response time.

It appears that FONG et al fairly teaches the claimed invention except for the type of model, i.e. demand forecast tree model having a single top level mode with a plurality of branches directly emanating therefrom and having step of determining an expected computing time for each branch of the plurality of branches of the demand forecast tree.

In a similar multiprocessor modeling and execution environment, BEHRENS ET AL teaches a demand forecast tree (map) **model** having a single top level mode with a

plurality of branches directly emanating therefrom in a database for determining a desirable task or solution from among the many branches or tasks {see Figs. 2B, elements 1174, 1176, Fig. 3, element 3254, "Demand Forecast", cols. 6-7}. Therefore, it would have been obvious to a person having ordinary skill in the art (herein after as "PHOSITA") at the time of the invention was made to modify the model of FONG et al to include the a demand forecast tree (map) **model** having a single top level mode with a plurality of branches directly emanating therefrom in a database as taught by BEHRENS ET AL for determining a desirable task or solution from among the many branches or tasks {see Figs. 2B, elements 1174, 1176, Fig. 3, element 3254, "Demand Forecast", cols. 6-7}.

In a similar multiprocessor scheduling and execution environment, **PRASANNA** discloses the multiprocessor scheduling and execution system with the step of determining an expected computing time for each branch of the plurality of branches of the demand forecast tree in order to obtain a processor schedule with higher efficiency such as faster execution or allows the two branches to be executed independently {see Figs. 3A-3B, 5A-5C, col. 1, lines 10-40, col. 2, lines 20-35, col. 7, lines 1-37, and especially col. 8, lines 20-67}. Therefore, Therefore, it would have been obvious to a person having ordinary skill in the art (herein after as "PHOSITA") at the time of the invention was made to modify the teaching of FONG et al/BEHRENS ET AL to include the teaching of PRASANNA as cited for the benefits of a processor schedule with higher efficiency such as faster execution or allows the two branches to be executed independently, see col. 8, lines 20-67.

As for dep. claims 6-7 (part of 5 above), which deal with the features of the task and computing availability of the servers, these are taught in FONG et al /BEHRENS ET AL /PRASANNA as

As for independent method claims 1-3, which are the respective method claims to carry out the system claims 5-7 above, they are rejected for the same reasons set forth in the rejections of claims 5-7 above.

As for method claims 9-11, which appear to be the respective method claims to carry out the system claims 5-7 above, they are rejected for the same reasons set forth in the rejections of claims 5-7 above.

Response to Arguments

5. Applicant's arguments filed 10/23/09 have been fully considered but they are not persuasive in view of the new rejections, citations and interpretations above which are caused by applicant's amendment of the claims.

1) As for the argument with respect to the 101 rejection with respect to the method claims, they are not persuasive for the reasons set forth above.

6. 2) As for the argument with respect to the 103 rejection with respect to the rejected claims, they are not persuasive in view of the new rejections, citations and interpretations above which are caused by applicant's amendment of the claims.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

No claims are allowed.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see http://pair-direct@uspto.gov. Should you have any questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

For more information about the PAIR system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

1. Any response to this action should be mailed to:
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   401 Dulany Street
   Alexandria, VA 22314.

2. In receiving an Office Action, it becomes apparent that certain documents are missing, e. g. copies of references, Forms PTO 1449, PTO-892, etc., requests for copies should be directed to Tech Center 3600 Customer Service at (571) 272-3600, or e-mail CustomerService3600@uspto.gov .

3. Any inquiry concerning the merits of the examination of the application should be directed to Dean Tan Nguyen at telephone number (571) 272-6806. My work schedule is normally Monday through Friday from 6:30 am - 4:00 pm. I am scheduled to be off every other Friday. Should I be unavailable during my normal working hours, my supervisor Janice Mooneyham can be reached at (571) 272-6805. The main FAX phone numbers for formal communications concerning this application are **(571) 273-8300**. My personal Fax is (571) 273-6806. Informal communications may be made, following a telephone call to the examiner, by an informal FAX number to be given.

/Tan Dean D. Nguyen/
Primary Examiner, Art Unit 3689